DOCUMENT RESUME

ED 456 880 JC 010 608

AUTHOR Gillum, F. E.
TITLE Casper College Economic Impact Analysis, 1999-2000.
PUB DATE 2001-08-00
NOTE 11p.
PUB TYPE Reports - Evaluative (142)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Community Benefits; Community Colleges; Economic Climate; Economic Factors; *Economic Impact; Economic Progress; Economic Research; *Education Work Relationship; *Educational Benefits; Educational Objectives; Employment Patterns; Employment Statistics; Expenditures; Relevance (Education); Two Year Colleges
IDENTIFIERS *Casper College WY; Wyoming

ABSTRACT

This study conservatively estimated the tangible economic impact that Casper College (Wyoming) had on Natrona County and the state. These data are presented in Part 1 of the report. Findings include: (1) the direct impact of the college on Natrona's economy was estimated to be over $41 million; (2) for every dollar spent by county taxpayers in support of the college, $32 is returned to the county's economy; and (3) more than 89 million dollars was pumped into the economy of the State of Wyoming by the expenditures of the college, its employees, and its students. Part 2 of this report examines the impact that completing a program of study at the college had on the earning power of its students. Based on a study of 1,003 Casper program completers from 1996-98, findings include: (1) program completers earned an average of $40,913 during the eight quarters after they finished studies at the college, while members of the control group averaged earnings of $33,243 for the same period of time; and (2) assuming that the average completer would work for at least 30 years and their pay differential ($7,670) would never grow beyond the increase over the first eight quarters, the average individual would have earned an additional $214,760 throughout his or her work life. (EMH)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 456 880

# Casper College Economic Impact Analysis
# 1999-2000

F.E. Gillum

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Conducted by
F. E. "Skip" Gillum, Ph.D.
Vice President For Academic Affairs

JC010608



BEST COPY AVAILABLE

# INTRODUCTION

This study is intended to conservatively estimate the tangible economic impact that Casper College has on Natrona County and the State of Wyoming. These data are presented in Part I of this report. Additionally, it examines the impact that completing a program of study at the College has on the earning power of its students. The impact on earnings data appears in Part II of the report.

Impact on economies

The model utilized in calculating the economic impact on the County and State is based on work done by Caffrey and Isaacs (1971) and modified by G. Jeremiah Ryan (1983, 1985). This model has been utilized by community colleges in a variety of states including New Jersey, New Mexico, New York, Kansas and Michigan when conducting economic impact studies. The model utilizes three main components for each economy to estimate the direct impact of Casper College on the County and State economies. These primary components include:

- Direct Casper College expenditures in Natrona County and Wyoming;
- Direct expenditures of Casper College employees in Natrona County and Wyoming; and
- Direct expenditures of Casper College students in Natrona County and Wyoming.

In addition to the direct economic impact of the above expenditures, the model relies on the use of a multiplier to estimate the indirect economic impact resulting from the additional business volume impacts generated by the direct expenditures. The model also allows for the calculation of the employment impacts attributable to the economic activity generated by the college.

This particular economic analysis model was designed to provide conservative estimates. It generates data on only four major components of an institution's actual impact on an economy. There are many other components

that other models include in their calculations such as the expansion of the credit base for local banks, increased sales and property taxes generated, health care savings, decline in welfare, and the decrease in lost work days to name but a few.

This analysis does not project those impacts on the economy that may result because of the college hosting events that otherwise might not be in the city. Nor does this analysis take into consideration the economic impact on the local and state economies from the Casper College Foundation, the Upper Division Center, Follett Bookstore, or Sodexho Marriott Food Services, all of which are located on the Casper College campus and have significant interaction with both economies.

By taking this conservative approach the information that ultimately will be available for legislators and other interested citizens will be valid and usable. The conservative approach will make it difficult for skeptics to attack the size of the impact as being overstated. This approach will make it more likely that decision makers will utilize the data because of its reliability and understand that the actual impact is much larger than the numbers indicate.

Impact on future earning power

Data concerning the impact that completing a Casper College program of study has on the earning ability of individuals was developed through a partnership with the Research Department of the Wyoming Department of Employment. This collaboration results in the melding of Casper College program completer data with State wage records data. This process provides quarterly earnings data prior to college, during college, and after program completion. Control/comparator groups for each graduating cohort were developed to show the impact on earning ability associated with program completion. Data development in this manner is more accurate than self-reported data available through graduate surveys or census data.

The resulting data are not without their limitations, however. As pointed out by Mundhenk (2000), wage record data only accounts for those individuals working in a particular state. It also has limitations within each state. Not found

in these records are individuals working for the federal government, persons in the military, farm workers, and persons who are self-employed. Even with these limitations these data are better than self-reported data gained from graduate surveys, because this system tracks the person each quarter as they actually interact with the employment market and the actual earnings are reported by employers who are more inclined to report accurate wage earning data.

For purposes of this report, students who completed programs of study at Casper College during the years 1996, 1997, and 1998 were used as the study population. Because many factors other than education can influence earning power (Bullard, 1999), a stratified, random control group was also selected for each graduation year from the general workforce and was controlled for age, gender, and average quarterly wages of program completers for all quarters worked prior to graduation (Gillum, 2001). This action resulted in identification of a paired/matched control group that was controlled not only for gender and age, but also for earning power prior to completion of the college program.

## PART I FINDINGS

Casper College's tangible economic impact on Natrona County

The economic impact of Casper College on the economy of Natrona County for 1999-2000 was estimated to be:

| | |
|---|---|
| • In-county institutional expenditures | $ 13,822,521.00 |
| • In-county employee expenditures | $ 6,861,709.00 |
| • In-county student expenditures | $ 20,822,645.00 |
| • Total direct in-county economic impact | $41,506,875.00 |

As indicated above, more than 41.5 million dollars of the County's economy was a direct result of spending by Casper College, its employees, and students. This total spending was recycled through the county's economy in

several rounds of spending. This multiplier effect enhances the economic impact as follows:

| | |
|---|---|
| • Total in-county economic impact | $41,506,875.00 |
| • Multiplier | 2.0 |
| • Total tangible in-county economic impact | $83,013,750.00 |

In other words, a business volume of slightly over 83 million dollars was generated in Natrona County by the expenditures of Casper College, its employees and students during 1999-2000.

Full-time jobs located in Natrona County attributable to Casper College

In addition to the business volume it generates, Casper College contributes a significant number of full-time equivalent jobs to the economy of Natrona County:

| | |
|---|---|
| • Full-time equivalent College employees | 442 |
| • Full-time equivalent jobs related to CC | 2490 |
| • Total full-time equivalent employment | 2932 |

Thus, Casper College and its associated business volume accounted for 2932 full-time equivalent jobs in Natrona County during 1999-2000.

Return on county taxpayer investment in Casper College

Casper College received approximately $2,593,085.00 from local mill levy and automobile taxes. This results in a ratio of Casper College's total tangible economic impact to County taxpayer support of $32.01 to $1.00.

- For every $1.00 spent by county taxpayers in support of Casper College $32.01 is returned into the Natrona County economy

Casper College's tangible economic impact on the State of Wyoming

The economic impact of Casper College on the economy of the State of Wyoming for 1999-2000 was estimated to be:

| | |
|---|---|
| • In-state institutional expenditures | $16,116,631.00 |
| • In-state employee expenditures | $ 7,969,378.00 |
| • In-state student expenditures | $20,833,645.00 |
| • Total direct in-state economic impact | $44,908,654.00 |

More than 44.9 million dollars of the State's economy was a direct result of spending by Casper College, its employees, and students. This total spending was also recycled through the State economy in several rounds of spending. This multiplier effect enhances the economic impact as follows:

| | |
|---|---|
| • Total in-state economic impact | $44,908,654.00 |
| • Multiplier | 2.0 |
| • Total tangible in-state economic impact | $89,817,308.00 |

In other words, more than 89 million dollars was pumped into the economy of the State of Wyoming by the expenditures of Casper College, its employees, and students.

Full-time jobs located in Wyoming attributable to Casper College

In addition to the business volume it generates, Casper College also contributes a significant number of full-time equivalent jobs to the Wyoming economy. The jobs that Casper College is responsible for (directly or indirectly) in the State of Wyoming are as follows:

- Full-time equivalent college employees 446
- Full-time equivalent jobs related to CC 2695

- Total full-time equivalent employment 3141

Thus, Casper College and its associated business volume generated 3141 full-time equivalent jobs in Wyoming during 1999-2000. To show the value that these jobs bring to the State's economy one only need calculate the wages associated with such employment. The average salary paid in Wyoming during the study year was $24,950.00, as reported by the Wyoming Department of Employment (2001). To find the value of those jobs to the State's economy one need only multiply the number of indirect jobs by the average salary.

- 2695 indirect jobs X Average Salary for Wyoming
- $67,240,250.00 for 1999-2000

Return on State taxpayer investment in Casper College

Casper College received approximately $11,134,247.00 from the State general fund for the study year. This results in a ratio of Casper College's total tangible economic impact to State taxpayer support of $8.07 to $1.00

- For every $1.00 appropriated by the State Legislature for use by Casper College the state's economy receives a minimum of $8.07 in return.
- If the salaries associated with the indirect jobs are figured into the equation those numbers reveal a return on investment of $20.14 for every State dollar appropriated to the College.

# PART II FINDINGS

The impact of program completion on future earning power

1003 Casper College program completers from 1996, 1997, and 1998 were found in the State of Wyoming wage records. This represents an employment rate for program completers of slightly more than 70%. For purposes of the study, the program completers were paired with like control groups matched by gender, age, and earning power prior to completion of a Casper College program of study. The completers and their control groups were tracked from between 10 and 26 work quarters prior to completion of a program of study. They were also tracked from between 8 and 16 work quarters after program completion. During the ten quarters prior to program completion, students attending Casper College are earning total wages very close to those earned by individuals in their control groups. Immediately after graduation (zero in Table 1) wages for the Casper College completers surpass those of the control group and remain higher for each quarter thereafter.

Table 1

Quarterly Wages for Program Completers 1996-1998 and Control Groups Over Time

| Earning periods before and after program completion | Control Group Earnings | Graduate Group Earnings |
|---|---|---|
| -10 | $2533 | $2476 |
| - 9 | $2490 | $2383 |
| - 8 | $2714 | $2615 |
| - 7 | $2801 | $2469 |
| - 6 | $2696 | $2412 |
| - 5 | $2698 | $2291 |
| - 4 | $2931 | $2946 |
| - 3 | $3035 | $2452 |
| - 2 | $2893 | $2373 |
| - 1 | $2885 | $2245 |
| 0 | $3204 | $3570 |
| + 1 | $3384 | $3807 |
| + 2 | $3331 | $3850 |
| + 3 | $3513 | $4138 |
| + 4 | $3782 | $4702 |
| + 5 | $4017 | $5101 |
| + 6 | $3827 | $4992 |
| + 7 | $3998 | $5426 |
| + 8 | $4187 | $5327 |

The program completers earned an average of $40,913.00 during the eight quarters after they finished their studies at Casper College. Members of the control group averaged earnings of $33,243.00 for the same period of time. This difference of $7,670.00 clearly indicates that completing a course of study at Casper College has a significant, positive impact on the earning power of those students. Additionally, this increase in earning power translates into a $7,693,010.00 impact on the State's economy after this initial eight work quarters.

Assuming that the average Casper College completer would work for at least 30 years and their pay differential would never grow beyond the increase over the first eight quarters ($7,670), the average individual would have earned an additional $214,760.00 throughout his/her work life. This represents an additional $215,404,280.00 for the entire three years of program completers. Obviously, if the wage differential continues to increase over time, the overall impact on the State's economy would also increase.

Summary

In conclusion, this report has presented the conservative estimates of how Casper College interacts with the local and state economies and the impact that completion of a program of study has on future earning power.

| | |
|---|---|
| • Impact on County economy | $83,013,750.00 |
| • Jobs in County | 2932 |
| • Return on County investment | $32.01 per $1.00 |
| • Impact on State economy | $89,817,654.00 |
| • Jobs in State | 3141 |
| • Return on State investment | $8.07 per $1.00 |
| • Impact on earning ability | $7,670.00 |

These data overwhelmingly point to the fact that Casper College contributes significantly to the economies of both Natrona County and the State of Wyoming. It is also apparent that completing a program of study at the College has a positive impact on the earning power of those individuals. This impact results in a major return on investment not only for the taxpayers of Natrona County and Wyoming but also for those individuals who invest in furthering their education.

Readers interested in obtaining more detail regarding the methodology of the study, the actual data points and calculations used to derive the results, should contact the author at Casper College.

## REFERENCES


Bullard, D. (1999). Estimating wage differentials for the western region. (On-line) Wyoming Department of Employment, Research and Development: wysiwyg://5/http://lmi.state.wy.us/0299/al.htn

Caffrey, J., & Isaacs, H. (1971). Estimating the impact of a college or university on the local economy. Washington, DC: American Council on Education.

Gillum, F. E. (2001). Legislative perceptions of the economic impact of Casper College on the State of Wyoming, Natrona County, and its students: An examination of the reality of those perceptions. Doctoral dissertation, Colorado State University, Fort Collins, Colorado.

Mundhenk, R. T. (2000). Institutional effectiveness and unemployment insurance data. American Association of Community Colleges White Paper, Fall 2000.

Ryan, G. J. (1983). Handbook for conducting a study of the economic impact of a community college. Lincroft, NJ: Brookdale Community College. (ERIC Document Reproduction Service No. ED233755.

Ryan, G. J. (1985). A shortcut to estimating economic impact. Community/Junior College Quarterly of Research and Practice, 9(3) 197-214.

Wyoming Department of Employment (2001). Wyoming Labor Force Trends 38(4), 15.